

DIVER1510WO-1.ST25.txt
SEQUENCE LISTING

<110> DIVERSA CORPORATION

SHORT, Jay

<120> WHOLE CELL ENGINEERING BY MUTAGENIZING A SUBSTANTIAL PORTION OF A STARTING GENOME, COMBINING MUTATIONS, AND OPTIONALLY REPEATING

<130> DIVER1510WO-1

<140> PCT/US 01/19367

<141> 2001-06-14

<150> US 09/677,584

<151> 2000-09-30

<150> US 09/594,459

<151> 2000-06-14

<160> 33

<170> PatentIn version 3.0

<210> 1

<211> 5818

<212> DNA

<213> Escherichia coli

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 <213> Escherichia coli

<400> 2

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 35 40 45
 Ser Ser Glu Gly Ser Glu Ala Met Gln Glu Gly Ala Tyr Arg Phe Tyr
 50 55 60
 Arg Asn Pro Asn Val Ser Ala Glu Ala Ile Arg Lys Ala Gly Ala Met
 65 70 75 80
 Gln Thr Val Lys Leu Ala Gln Glu Phe Pro Glu Leu Leu Ala Ile Glu
 85 90 95
 Asp Thr Thr Ser Leu Ser Tyr Arg His Gln Val Ala Glu Glu Leu Gly
 100 105 110
 Lys Leu Gly Ser Ile Gln Asp Lys Ser Arg Gly Trp Trp Val His Ser
 115 120 125

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Val Leu Leu Leu Glu Ala Thr Thr Phe Arg Thr Val Gly Leu Leu His
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 145 150 155 160
 Glu Ser Gly Lys Trp Leu Ala Ala Ala Ala Thr Ser Arg Leu Arg Met
 165 170 175
 Gly Ser Met Met Ser Asn Val Ile Ala Val Cys Asp Arg Glu Ala Asp
 180 185 190
 Ile His Ala Tyr Leu Gln Asp Arg Leu Ala His Asn Glu Arg Phe Val
 195 200 205
 Val Arg Ser Lys His Pro Arg Lys Asp Val Glu Ser Gly Leu Tyr Leu
 210 215 220
 Ile Asp His Leu Lys Asn Gln Pro Glu Leu Gly Gly Tyr Gln Ile Ser
 225 230 235 240
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 245 250 255
 Pro Ala Arg Lys Ala Ser Leu Ser Leu Arg Ser Gly Arg Ile Thr Leu
 260 265 270
 Lys Gln Gly Asn Ile Thr Leu Asn Ala Val Leu Ala Glu Glu Ile Asn
 275 280 285
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 290 295 300
 Pro Val Glu Ser Leu Ala Gln Ala Leu Arg Val Ile Asp Ile Tyr Thr
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 His Arg Trp Arg Ile Glu Glu Phe His Lys Ala Trp Lys Thr Gly Ala
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 Gly Ala Glu Arg Gln Arg Met Glu Glu Pro Asp Asn Leu Glu Arg Met
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 Ser Phe Thr Leu Pro Gln Ala Leu Arg Ala Gln Gly Leu Leu Lys Glu
 370 375 380
 Ala Glu His Val Glu Ser Gln Ser Ala Glu Thr Val Leu Thr Pro Asp
 385 390 395 400
 Glu Cys Gln Leu Leu Gly Tyr Leu Asp Lys Gly Lys Arg Lys Arg Lys
 405 410 415
 Glu Lys Ala Gly Ser Leu Gln Trp Ala Tyr Met Ala Ile Ala Arg Leu
 420 425 430
 Gly Gly Phe Met Asp Ser Lys Arg Thr Gly Ile Ala Ser Trp Gly Ala
 435 440 445
 Leu Trp Glu Gly Trp Glu Ala Leu Gln Ser Lys Leu Asp Gly Phe Leu
 450 455 460

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Ala Ala Lys Asp Leu Met Ala Gln Gly Ile Lys Ile
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<210> 3
<211> 30
<212> DNA
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<220>
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<220>
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<223> n is A, T, G, or C

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30

<210> 4
<211> 30
<212> DNA
<213> Artificial sequence

<220>
<223> Defined sequence kernel

<220>
<221> misc_feature
<222> (1)..(30)
<223> n is A, T, G, or C

<400> 4
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30

<210> 5
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> Antibody spacer peptide. The entire peptide sequence can be repeated more than one time

<400> 5

Gly Gly Gly Gly Ser
1 5

<210> 6
<211> 14
<212> DNA
<213> Artificial sequence

<220>
<223> Tetradecanucleotide d

<400> 6
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14

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<210> 7
 <211> 21
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 21-mer d

<400> 7
 aaattgtgca catcctgcag c

21

<210> 8
 <211> 12
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 12-mer target DNA

<400> 8
 agcctagctg aa

12

<210> 9
 <211> 12
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Complement of the original 12-mer target

<400> 9
 tcggatcgac tt

12

<210> 10
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 <212> PRT
 <213> Artificial sequence

<220>
 <223> Target sequence

<220>
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 <222> (3)..(3)
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<210> 11
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 <212> PRT
 <213> Artificial sequence

<220>
 <223> Single base mismatched probe

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Tyr Tyr Tyr Tyr
1

<210> 12

<211> 4

<212> PRT

<213> Artificial sequence

<220>

<223> 4-mer extemtion probe

<220>

<221> VARIANT

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<223> Xaa is any Amino Acid

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Tyr Xaa Tyr Tyr
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<210> 13

<211> 10

<212> DNA

<213> Artificial sequence

<220>

<223> BstNB I cleaves btw. nucleotide 9 & 10 of target sequence

<220>

<221> misc_feature

<222> (6)..(10)

<223> n is any nucleotide

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10

<210> 14

<211> 223

<212> DNA

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<223> Forward primer

<220>

<221> misc_feature

<222> (1)..(223)

<223> n is any nucleotide

<220>

<221> misc_feature

<222> (1)..(10)

<223> at least one nt. of nt. 1-10 is present

<220>

<221> misc_feature

<222> (21)..(120)

<223> at least one nt. of nt. 21-120 is present

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<221> misc_feature
<222> (124)..(223)
<223> nt. 124-223 are optionally present

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<212> DNA
<213> Artificial sequence

<220>
<223> Revers primer

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<222> (1)..(215)
<223> n is any nucleotide

<220>
<221> misc_feature
<222> (1)..(10)
<223> at least one nt. of nt. 1-10 is present

<220>
<221> misc_feature
<222> (16)..(115)
<223> at least one nt. of 16-115 is present

<220>
<221> misc_feature
<222> (116)..(215)
<223> nt. 116-215 are optionally present

<400> 15
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nnnnnnnnnnn nnnnnnnnnnnn nnnnnnnnnnnn nnnnnnn 215

<210> 16
<211> 123
<212> DNA
<213> Artificial sequence

<220>
<223> Forward primer with 10-100 template specific sequence

<220>
<221> misc_feature

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<222> (24)..(123)
 <223> n is any nucleotide

<220>
 <221> misc_feature
 <222> (34)..(123)
 <223> nt. 34-123 are each optionally present

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 nnn 123

<210> 17
 <211> 121
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Reverse primer with 10-100 nt long template specific sequence

<220>
 <221> misc_feature
 <222> (22)..(121)
 <223> n is any nucleotide

<220>
 <221> misc_feature
 <222> (32)..(121)
 <223> nt. 32-121 are each optionally present

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 n 121

<210> 18
 <211> 23
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Forward primer

<400> 18
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<210> 19
 <211> 21
 <212> DNA
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<220>
 <223> Reverse primer

<400> 19

gatcaaaggc ggcctgcag g

21

<210> 20
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 <223> Linker peptide

<400> 20

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
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<220>
 <223> Protogenitor template 124-2d

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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Protogenitor template 12412

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 <212> DNA
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 <223> Protogenitor template 124-1d

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<210> 24
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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Protogenitor template mycol

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<210> 25
 <211> 150
 <212> DNA
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<220>
 <223> Protogenitor template b3

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 <212> DNA
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<220>
 <223> Protogenitor template b1

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 <212> DNA
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<220>
 <223> Protogenitor template 15112

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<210> 28
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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Protogenitor template rhod2

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 <211> 35
 <212> DNA
 <213> Artificial sequence

<220>
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<400> 29
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 <212> DNA
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<220>
 <223> Derived nucleic acid building block sequence

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<210> 31
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<220>
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